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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,747	09/12/2003	Thomas D. Williams	62451.00002	5988

32294   7590   07/08/2008
SQUIRE, SANDERS & DEMPSEY L.L.P.
8000 TOWERS CRESCENT DRIVE
14TH FLOOR
VIENNA, VA 22182-6212

EXAMINER
AUGUSTINE, NICHOLAS

ART UNIT	PAPER NUMBER
2179	

MAIL DATE	DELIVERY MODE
07/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/660,747	WILLIAMS ET AL.
	Examiner	Art Unit	
	NICHOLAS AUGUSTINE	2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 February 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>7,8 and 10-32</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>7,8 and 10-32</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/4/2008; 3/21/2008</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____

DETAILED ACTION

A.   This action is in response to the following communications: Request for

Continued Examination filed 02/04/2008.

B.   Claims 7, 8 and 10-32 remains pending.

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the

fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since

this application is eligible for continued examination under 37 CFR 1.114, and the fee

set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office

action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

02/04/2008 has been entered.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office

action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 7, 8 and 10-32 are rejected under 35 U.S.C. 102(b) as being

anticipated by Moezzi et al (US 5,850,352), herein referred to as Moezzi.

As for claim 7, Moezzi teaches a method for virtually navigating an environment in three dimensions (col.23, line 25), the method comprising: defining virtual paths in the environment (col.9, lines 54-67; system creates virtual synthesized images for navigation in the immersive scene);

capturing images of the space environment from a plurality of cameras (col.23, lines 13-14); receiving a navigation request; generating a plurality of synthetic images corresponding to viewpoints along ~~predefined~~ the virtual paths transmitting a sequence of synthetic images corresponding to viewpoints along at least two of the virtual oaths, wherein the transmitted sequence user corresponds to the navigation request the at least two of the virtual paths share a common junction, and at least one of the synthetic images has a perspective different than any of the plurality of cameras (col.23, lines 2-41, 53-63).

As for claim 8, Moezzi teaches the method of claim 7, wherein the transmitted sequence comprises synthetic images corresponding to viewpoints along virtual paths that most closely match the navigation request (col.26, lines 6-38).

As for claim 10, Moezzi teaches the method for allowing claim 7, wherein positions of the virtual paths and viewpoints are based at least in part on positions of the cameras (figure 1A).

As for claim 11, Moezzi teaches the method of claim 7, wherein the defining step is performed before the generating and transmitting steps (col.26, lines 21-36).

As for claim 12, Moezzi teaches the method of claim 7, wherein the defining step is performed once and the capturing, receiving, generating, and transmitting steps are performed repeatedly (col.26, lines 12-36).

As for claim 13, Moezzi teaches a method for efficiently providing a virtual presence of within a three-dimensional scene to a plurality of simultaneous users (col.23, line 25; figure 2), the method comprising:

defining a plurality of virtual paths within the scene, each path terminating at a junction;

defining a plurality of viewpoints along each virtual path (col.9, lines 54-67); capturing images of the scene from a plurality of cameras; generating a synthetic image corresponding to each viewpoint (col.23, lines 13-14);

combining synthetic images corresponding to the plurality of viewpoints along a virtual path to produce a sequence of images;

receiving a navigation request from at least one user of the plurality of simultaneous users; selecting a virtual path of the plurality of virtual paths based on the navigation request; transmitting a sequence of images corresponding to viewpoints along the selected virtual path to the at least one user:

wherein at least one of the synthetic images has an optical axis different than any of the

plurality of cameras (col.23, lines 2-41, 53-63; col.25, lines 5-20; col.26, lines 6-53).

As for claim 14, Moezzi teaches the method of claim 13, wherein each sequence of images begins with an image from a viewpoint at a first junction and ends with an image from a viewpoint at a second junction (col.33, lines 20-35; figures 6-8).

As for claim 15, Moezzi teaches the method of claim 13, further comprising queuing a second navigation request received from the at least one user while a sequence of images is being transmitted to the at least one user (col.26, lines 37-38).

As for claim 16, Moezzi teaches the method of claim 13, wherein the plurality of cameras comprises pairs of cameras, each pair having at least partially overlapping views and similar viewing angles (figure 4).

As for claim 17, Moezzi teaches the method of claim 13, wherein the plurality of cameras comprises cameras arranged substantially parallel to the virtual paths (figures 4 and 6; col.9, lines 54-67).

As for claim 18, Moezzi teaches the method of claim 13, wherein clusters of at least some of the plurality of cameras are located near

junctions (col.44, lines 44-67).

As for claim 19, Moezzi teaches the method of claim 13, wherein the plurality of

simultaneous users comprises at least one thousand users (col.23, lines 53-63).

As for claim 20, Moezzi teaches a system for efficiently providing a virtual presence

within a three-dimensional scene the system comprising:

a plurality of cameras comprising pairs of cameras, each pair configured to capture at

least partially overlapping views of at least a portion of the scene at similar viewing

angles (figure 4); at least one image processor configured to generate synthetic images

corresponding to viewpoints along predefined virtual paths within the scene and

combine the images into sequences of images (figure 17); at least one router configured

to select sequences in response to navigation requests; at least one user processor

configured to compose a video stream comprising at least one sequence selected by

the router (col.38, lines 28-50); a plurality of user displays coupled to at least one user

processor via a data network and configured to display a respective video stream (figure

17): wherein at least one of the synthetic images is from a perspective different than any

of the plurality of cameras (note the analysis of claim 7 above).

As for claim 21, Moezzi teaches the system of claim 20, wherein each sequence of

images comprises synthetic images corresponding to the viewpoints along a virtual path

(col.24, lines 4-33).

As for claim 22, Moezzi teaches the system of claim 21, wherein at least some of the sequences of images comprise synthetic images corresponding to the viewpoints along two or more virtual paths sharing at least one common junction (figure 4, col.24, lines 4-33).

As for claim 23, Moezzi teaches the system of claim 20, wherein the at least one router is further configured to select a sequence comprising images from viewpoints along the virtual, path that best matches a navigation request (col. 24, lines 9-23).

As for claim 24, Moezzi teaches the system of claim 20, wherein the at least one processor comprises at least two processors and the system further comprises a load balancer configured to balance users a load among the at least two processors (col.37, lines 49-50).

As for claim 25, Moezzi teaches the system of claim 20, wherein the displays are further configured to transmit navigation requests (col.26, lines 33-36).

As for claim 26, Moezzi teaches the system of claim 20, wherein at least one of the displays is a personal computer (figure 17).

As for claim 28, Moezzi teaches the system of claim 20,

wherein the data network is the Internet (figure 17; network).

As for claim 28, Moezzi teaches the system of claim 20,

wherein the system is configured to provide a virtual presence to more than one

thousand simultaneous users (col.23, lines 53-63).

As for claim 29, Moezzi teaches the method of claim 7, wherein the at least one of the

synthetic images has an optical axis different than any of the plurality of cameras (figure

2 and 4; col.24, lines 31-33).

As for claim 30, Moezzi teaches the method of claim 13, wherein the at least one of the

synthetic images has an optical axis parallel to an optical axis of at least one of the

plurality of cameras (figure 2 and 4; col.24, lines 31-33).

As for claim 31, Moezzi teaches the method of claim 13, wherein the at least one of the

synthetic images is from a perspective different than any of the plurality of cameras

(figure 2 and 4; col.24, lines 31-33).

As for claim 32, Moezzi teaches the system of claim 20, wherein the at least one of the

synthetic images has an optical axis different than any of the plurality of cameras (figure

2 and 4; col.24, lines 31-33).

(Note :)   It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006,1009, 158 USPQ 275, 277 (CCPA 1968)).

Response to Arguments

Applicant's arguments with respect to claims 7, 8 and 10-32 have been

considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Inquires

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nicholas Augustine whose telephone number is 571-

270-1056. The examiner can normally be reached on Monday - Friday: 7:30- 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Weilun Lo can be reached on 571-272-4847. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nicholas Augustine/
Examiner
Art Unit 2179
July 3, 2008

/Ba Huynh/
Primary Examiner, Art Unit 2179